

State Glazier Advisory Committee • Madison WI
Glazier • 1-865381010-01-T
Exhibit A - Program Provisions

Approved: **October 6, 2011**

TERM OF APPRENTICESHIP: The term of apprenticeship shall be Hybrid, which has been established to be **6,240** hours. In addition to the specified hours, the apprentice must successfully attain the competencies described in these program provisions. Hours of labor shall be the same as established for other skilled employees in the trade.

PROBATIONARY PERIOD: The probationary period shall be the first 12 months of employment, but in no case shall it exceed twelve calendar months. During the probationary period, this contract may be cancelled by the apprentice or the sponsor upon written notice to the Department, without adverse impact on the sponsor.

SCHOOL ATTENDANCE: The apprentice shall attend the Wisconsin Technical College System or other approved training provider, as assigned, for paid related instruction four hours per week or the equivalent and satisfactorily complete the prescribed course material for a minimum of 400 hours, unless otherwise approved by the Department. The employer must pay the apprentice for attended related instruction hours at the same rate per hour as for services performed.

WORK PROCESS SCHEDULE: In order to obtain well-rounded training and thereby qualify as a skilled worker in the trade, the apprentice shall have experience and training in the following areas and shall demonstrate competency, as specified herein. This instruction and experience shall include the following operations but not necessarily in the sequence given. Time spent on specific operations need not be continuous.

Work Process Description Approximate Hours

(Min - Max)

HEALTH AND SAFETY AWARENESS FOR THE GLAZIER

400 - 600

Don (put on), doff (remove), inspect, and maintain the proper PPE that should be worn.

Perform a job analysis for safe working conditions.

Maintain clean work areas (housekeeping).

Demonstrate proper and safe handling of materials and glass.

Identify the locations of First Aid and Fire Equipment.

Demonstrate basic safety awareness practices.

Demonstrate the process by which to erect and dismantle a scaffolding system.

Don and doff a personal fall arrest body harness and lanyard system.

Recognize dangerous situations that pertain to damaged equipment or unsafe work practices and follow proper protocol for reporting and correcting the situation.

INTRODUCTION TO THE GLAZING TRADE

400 - 640

Demonstrate the characteristics of a professional Glazier.

Demonstrate the use of glazing hand tools.

Demonstrate the proper use of glass handling tools, materials and machinery.

Select the proper tools to safely and correctly open a case of glass.

Demonstrate the techniques used to remove, lift, carry, transport, roll and place a lite of glass on a vertical or horizontal plane.

Demonstrate the process for disposing of broken glass.

Demonstrate the process for cleaning anodized or painted aluminum.

Demonstrate auto glass replacement and repair procedures.
Demonstrate the proper use of tools, materials and safety equipment during an art glass project.

SEALANTS

100 - 200

Demonstrate the techniques used to achieve good joint design.
Point out the qualities of good joint design and a properly prepared surface for sealant application.
Demonstrate methods for applying sealant on various structural glazing systems.
Demonstrate methods for sealing expansion joints.
Demonstrate knowledge of compatibility and application of membranes.

ARCHITECTURAL DRAWINGS

200 - 500

Interpret and apply architectural drawings and their associated components on the job.
Demonstrate the ability to make freehand sketches in a quick and efficient manner without using a compass, straight edge, or protractor.
Demonstrate how to make the following sketches:

- o Oblique drawings of straight and curved objects
- o Basic isometric and perspective sketches
- o A section of a storefront installation
- o A complex storefront with returns

Read a shop drawing and relate the information on it to an actual structure.
Read cross section diagrams of architectural metal extrusions.
Make a list of materials based on the shop drawing.

GLAZING SYSTEMS INSTALLATION AND LAYOUT

1000 - 2200

Glass Cutting:

Demonstrate the basic principles and procedures for cutting glass.
Measure, mark, and score glass to specified dimensions using a glass cutter.
Demonstrate basic fabrication techniques including: edging, removing scratches, drilling and cut outs.

Mirrors:

Measure the wall and transfer measurements onto a mirror.
Cut and perform edgework to various levels on glass and mirrors using upright wet belt sanders and hand held belt sanders.
Drill small and large holes using the proper drill for each.
Demonstrate the following glass and mirror cutouts: corner, wall outlet, peninsula notch, island circle and outside circle.
Recognize problems and apply solutions to imperfect wall surfaces to be used for mirror mounting.
Demonstrate the layout, fabrication, and installation procedures for mirror mounting.
Properly store and handle mirrors.

Shower Doors and Tub Enclosures:

Demonstrate the use of hardware for shower and tub enclosures.
Measure and layout a shower and tub enclosure.
Demonstrate fabrication and installation techniques for shower and tub enclosures.

Doors and Locks:

Perform a reliability test on installed panic hardware.
Demonstrate the construction and installation of aluminum doors and other entrances.

Break Metal:

Accurately measure the corners and radius walls prior to cutting the metal to insure proper fitting during installation.
Determine layout and positioning of break metal prior to cutting.
Demonstrate accurate fabrication of break metal on the job

Glazing Systems (General):

Demonstrate the ability to locate the manufacturer's installation manuals for any glazing system.

Demonstrate the ability to work with a team to fabricate and install glazing systems.

Demonstrate safe work practices and selection and use of PPE on all glazing systems.

Select and safely use the appropriate tools to install all glazing systems.

Demonstrate the proper techniques for welding various glazing systems.

Curtain wall System:

Measure and layout precise Curtain wall control lines and reference points.

Demonstrate the proper calculation of "tolerances" for building dimensions.

Conduct a field inspection prior to Curtain wall layout.

Demonstrate the assembly and installation of Curtain wall, including corner seals, glazing the wall and applying Curtain wall trim.

Ribbon Window and Pre-Glazed Systems:

Calculate glass sizes for framed openings using elevation drawings and details.

Demonstrate the assembly and installation of Ribbon Window systems.

Demonstrate the procedures for glazing the Ribbon Window system.

Demonstrate the installation of Pre-Glazed systems.

Unitized System:

Measure and layout materials needed for the installation of unitized systems.

Demonstrate the installation procedures to properly install manufacturer's unitized system materials.

Select and safely use the appropriate tools to install all glazing systems.

Pressure Wall:

Demonstrate Pressure Wall fabrication techniques.

Demonstrate the Pressure Wall erection process for single span and multi-span buildings.

Apply the steps to prepare the Pressure Wall openings for glazing.

Install glass, pressure plates, and covers on a Pressure Wall job.

Perform the procedures for internal sealants, zone damming, and water diversion.

Storefront Layout and Installation:

Measure a rough opening.

Fabricate and assemble a Storefront frame that uses shear block joinery.

Install Storefront metal and glass for new installations.

Fabricate and assemble a canned Storefront system.

Install, level, and plumb a given Storefront frame.

Drill holes in masonry with a hammer drill or pistol drill for a given masonry anchor.

Shim and anchor a given Storefront frame.

Spandrel Glass and Architectural Panels:

Demonstrate the proper fabrication of an Architectural Panel.

Demonstrate the installation of Spandrel Glass, Architectural Panels, and Louver Systems.

REPLACEMENT, RETRO FIT, AND WEATHERIZATION

200 - 400

Demonstrate the safe removal and disposal of broken glass.

Demonstrate the techniques for re-glazing various window systems.

SKYLIGHTS AND SLOPED GLAZING

200 - 400

Demonstrate self-flashing curb and curb mount skylight mountings.

Demonstrate the use and installation of various kinds of fall protection.

Demonstrate safe handling practices for skylights.

Compare the dimensions and tolerances of the skylight support structure with dimensions on skylight shop drawings.

Demonstrate the assembly of skylight components.
Demonstrate the use of various glazing and skylight hand tools.
Troubleshoot and repair problems with tools, materials, layout, leaks and other installation inefficiencies.
Demonstrate caulking and anchoring techniques.

ENERGY GLAZING SYSTEMS (EGS)

200 - 400

Demonstrate the proper fabrication of various EGS.
Demonstrate the proper installation of various EGS.
Demonstrate safe work practices and appropriate PPE when working with EGS.
Demonstrate proper material handling and installation with particular emphasis on the pigtail.

WELDING APPLICATIONS

200 - 400

Operate the shielded metal arc welding process in all positions to AWS D1.1 acceptance criteria (stick).
Demonstrate how to manipulate the electrode to produce certain weld characteristics.
Operate the oxy fuel cutting process.
Operate the plasma arc cutting process.
Tack up weldments.
Weld single and multipass fillet welds in all positions using the Shielded Metal Arc Welding process.
Weld Groove welds in the flat, horizontal, vertical and overhead positions using the shielded metal arc welding process to given specifications.
Use Shielded Metal Arc Welding to produce stringer beads and weave beads in the flat and vertical positions.
Repair faulty fillet weld areas containing undercut, overlap, uneven fillet weld legs and undersized fillet welds.
Produce stringer beads and weave beads in the flat and vertical positions.
Demonstrate oxygen fuel cutting techniques to sever metals.

Paid Related Instruction

400

TOTAL

6240

The above schedule is to include all operations and such other work as is customary in the trade.

MINIMUM COMPENSATION TO BE PAID:

In accordance with DWD 295.04, an apprentice contract wage scale is deemed adequate when, during the term of training, it averages 60% of the current journey worker rate. The apprentice contract should provide for a graduated scale progressing in periods as approved by the Bureau.

Base skilled wage rate N/A per hour.

If at any time the base skilled wage rate rises or falls, the apprentice's wage shall be adjusted proportionately. The wage rate of apprentices employed in this trade and this firm shall be based on the base skilled wage rate stated above.

All apprentices are covered by State and Federal Wage and Hour Standard requirements. All apprentices shall be paid no less than the minimum wage established under regulations.

CREDIT PROVISIONS: The apprentice, granted credit at the start or during the term of the apprenticeship, shall be paid the wage rate of the pay period to which such credit advanced the apprentice.

Work credit hours approved:	N/A
School credit hours approved:	
Paid related instruction:	N/A
Unpaid related instruction:	N/A
Total credit hours to be applied to the term of the apprenticeship:	N/A

SPECIAL PROVISIONS:

In addition to paid related school attendance, the apprentice hereby agrees to attend additional classes for a minimum total of 80 hours without compensation: the total number of required unpaid related instruction will be determined by the local committee. A Standard First Aid Course and OSHA training will be part of the required 80 hours of additional schooling.

To successfully complete any course at school the apprentice must receive a grade of C or better. If the apprentice receives a D or less (including an incomplete) in a course he/she will be required to retake that course at his/her own expense. Unsatisfactory progress in school (less than C average) during any semester could result in cancellation of the Apprentice Contract.

The apprentice in his/her final year must participate in the Transition to Trainer Course.

After completion of the probationary period and before the beginning of the fourth 6-month period, the apprentice shall be required to provide at his/her own expense and maintain in good condition basic tools as directed and listed by the local committee.